

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A product compound, or gas-associated form thereof, for use as blood substitute or depolluting agent comprising a hemoprotein associated with a sequenced block copolymer comprising an oligosaccharide or polysaccharide hydrophilic segment covalently linked via one of its ends to a single hydrophobic segment of formula (I), or via each of its two ends to a hydrophobic segment of formula [(I)](I), the two hydrophobic segments being the same or different;



in which:

X represents H or an alkyl, CN or CONHR radical,

Y represents a COOR', CONHR'' or C₆H₅ radical,

with R, R' and R'' representing, independently of one another, a hydrogen atom, a linear or branched C₁ to C₂₀ alkyl group, a linear or branched C₁ to C₂₀ alkoxy group, an amino acid radical, a mono- or polyhydroxylated acid radical or a C₅ to C₁₂ aryl or heteroaryl radical

wherein the sequenced block copolymer is formulated as a particle whose core comprises the hydrophobic segment of formula (I), and the oligosaccharide or polysaccharide hydrophilic segment lies at the surface of the particle; and

wherein the hemoprotein is associated ~~associates~~ with the oligosaccharide or polysaccharide.

2. (Currently Amended) The product compound ~~compound~~ of claim 1, wherein the hemoprotein is a normal hemoprotein, a modified hemoprotein, or else a hemoprotein analogue in which the iron is substituted with another metal.

3. (Currently Amended) The product compound ~~compound~~ of claim 1, wherein the hemoprotein is a normal or modified hemoglobin.

4. (Currently Amended) The product compound ~~compound~~ of claim 1, wherein, in formula (I), X represents a CN radical.

5. (Currently Amended) The product compound ~~compound~~ of claim 4, wherein the hydrophobic segment is a poly(alkyl cyanoacrylate).

6. (Currently Amended) The product compound ~~compound~~ of claim 1, wherein the hydrophilic segment that is saccharide in nature is a natural or synthetic oligosaccharide or polysaccharide, that may or may not be modified.

7. (Withdrawn - Currently Amended) The product compound ~~compound~~ of claim 1, wherein X represents H and Y a phenyl or ester radical.

8. (Currently Amended) The product compound-as claimed in claim 1, characterized in that it is provided in the form of particles of 1 nm to 1 mm.

9. (Currently Amended) The product compound-as claimed in claim 8, characterized in that it is provided in the form of nanoparticles.

10. (Currently Amended) A method of therapeutically treating a human or animal with a blood substitute comprising administering a product compound-of claim 1 to a human or animal in need thereof with a therapeutically effective amount of said product compound.

11. (Withdrawn) The method of claim 10, wherein said human or animal is being further treated with an antitumor composition or antitumor therapy.

12. (Withdrawn -Currently Amended) A method for depolluting gases from human or animal blood comprising administering to a human or animal in need thereof a therapeutically effective amount of the product compound-of claim 1 such that, in the blood, the compound associates with the gas to be depolluted.

13. (Withdrawn - Currently Amended) A pharmaceutical composition comprising a therapeutically effective amount of at least one product compound-as claimed in claim 1, in the form of nanoparticles in combination with a pharmaceutically acceptable vehicle.

14. (Currently Amended) The product compound-of claim 2, wherein the normal hemoprotein is a cytochrome or a myoglobin; the modified hemoprotein is natural or modified hemoglobin that is bridged, polymerized, mutated or comprises peptide chains;

and the hemoprotein analogue is an analogue in which the iron is substituted with cobalt, magnesium, copper or zinc.

15. (Currently Amended) The product compound of claim 6, wherein the oligosaccharide or polysaccharide is dextran or heparin.

16. (Currently Amended) The product compound of claim 15, wherein dextran is sulfated.

17. (Currently Amended) The method of claim 11, wherein the product compound is used as a radiosensitizing agent.

18. (Previously Presented) The method of claim 12, wherein the gas is carbon monoxide or nitric oxide.

19. (Currently Amended) A composition comprising a product compound of claim 1, in the form of nanoparticles, and a vehicle.